



DRILL STEM TEST REPORT

Prepared For: **H&C Oil Operating ,Inc**

PO Box 86
Plainville ,KS 67663

ATTN: Marc Downing

Bentley #36-3

36-15s-28w Gove,KS

Start Date: 2013.11.18 @ 20:35:50

End Date: 2013.11.19 @ 03:15:50

Job Ticket #: 54664 DST #: 1

Trilobite Testing, Inc
PO Box 362 Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2013.11.22 @ 09:48:51



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

H&C Oil Operating ,Inc

36-15s-28w Gove,KS

PO Box 86
Plainville ,KS 67663

Bentley #36-3

Job Ticket: 54664

DST#: 1

ATTN: Marc Downing

Test Start: 2013.11.18 @ 20:35:50

GENERAL INFORMATION:

Formation: **H-I**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 23:30:20
 Time Test Ended: 03:15:50
 Interval: **3924.00 ft (KB) To 3994.00 ft (KB) (TVD)**
 Total Depth: 3994.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Shane McBride
 Unit No: 55
 Reference Elevations: 2552.00 ft (KB)
 2541.00 ft (CF)
 KB to GR/CF: 11.00 ft

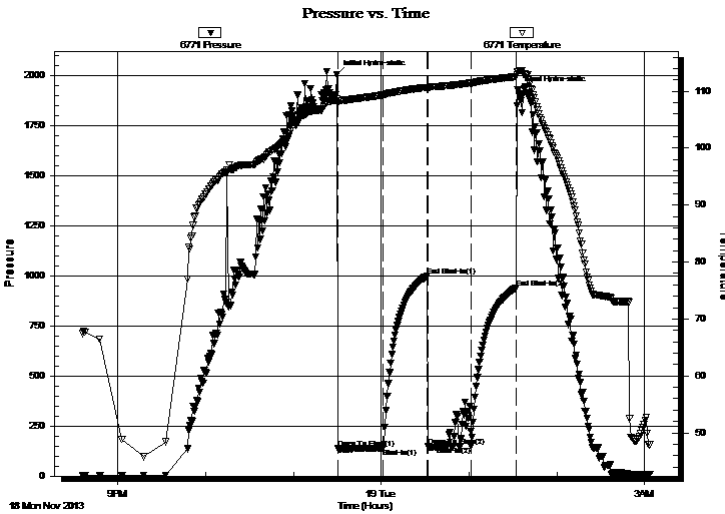
Serial #: 6771

Inside

Press@RunDepth: 148.58 psig @ 3925.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2013.11.18 End Date: 2013.11.19 Last Calib.: 2013.11.19
 Start Time: 20:35:50 End Time: 03:03:50 Time On Btm: 2013.11.18 @ 23:29:35
 Time Off Btm: 2013.11.19 @ 01:33:05

TEST COMMENT: 1/4" blow died in 8 min. hole sticky betw een 1345-1550
 No return
 No blow
 No return

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2006.77	108.59	Initial Hydro-static
1	139.09	107.87	Open To Flow (1)
32	141.15	109.34	Shut-In(1)
62	1001.69	110.70	End Shut-In(1)
63	148.22	110.47	Open To Flow (2)
92	148.58	111.36	Shut-In(2)
123	940.81	112.54	End Shut-In(2)
124	1929.23	113.35	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
180.00	mud	0.89

Gas Rates

Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

H&C Oil Operating ,Inc

36-15s-28w Gove,KS

PO Box 86
Plainville ,KS 67663

Bentley #36-3

Job Ticket: 54664

DST#: 1

ATTN: Marc Downing

Test Start: 2013.11.18 @ 20:35:50

Tool Information

Drill Pipe:	Length: 3648.00 ft	Diameter: 3.80 inches	Volume: 51.17 bbl	Tool Weight:	1500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 275.00 ft	Diameter: 2.25 inches	Volume: 1.35 bbl	Weight to Pull Loose:	70000.00 lb
			<u>Total Volume: 52.52 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	19.00 ft			String Weight: Initial	61000.00 lb
Depth to Top Packer:	3924.00 ft			Final	61000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	70.00 ft				
Tool Length:	90.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3905.00	
Shut In Tool	5.00			3910.00	
Hydraulic tool	5.00			3915.00	
Packer	5.00			3920.00	20.00 Bottom Of Top Packer
Packer	4.00			3924.00	
Stubb	1.00			3925.00	
Recorder	0.00	6771	Inside	3925.00	
Recorder	0.00	8844	Outside	3925.00	
Perforations	30.00			3955.00	
Change Over Sub	1.00			3956.00	
Drill Pipe	32.00			3988.00	
Change Over Sub	1.00			3989.00	
Bullnose	5.00			3994.00	70.00 Bottom Packers & Anchor

Total Tool Length: 90.00



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DRILL STEM TEST REPORT

FLUID SUMMARY

H&C Oil Operating ,Inc

36-15s-28w Gove,KS

PO Box 86
Plainville ,KS 67663

Bentley #36-3

Job Ticket: 54664

DST#: 1

ATTN: Marc Downing

Test Start: 2013.11.18 @ 20:35:50

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 52.00 sec/qt

Cushion Volume:

bbf

Water Loss: 7.18 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 3000.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbf
180.00	mud	0.885

Total Length: 180.00 ft Total Volume: 0.885 bbf

Num Fluid Samples: 0

Num Gas Bombs: 0

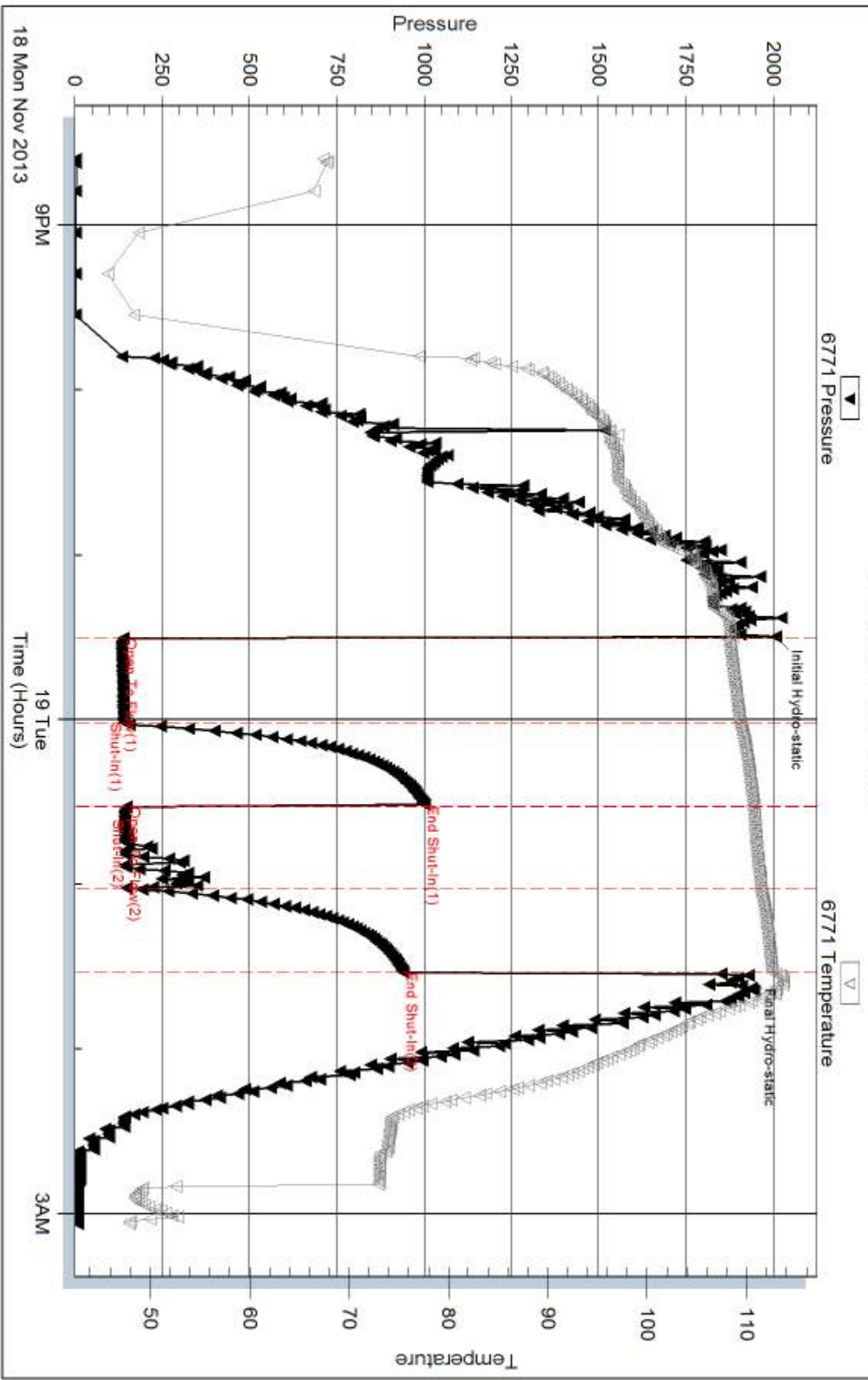
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: hole sticky betw een 1345- 1550

Pressure vs. Time

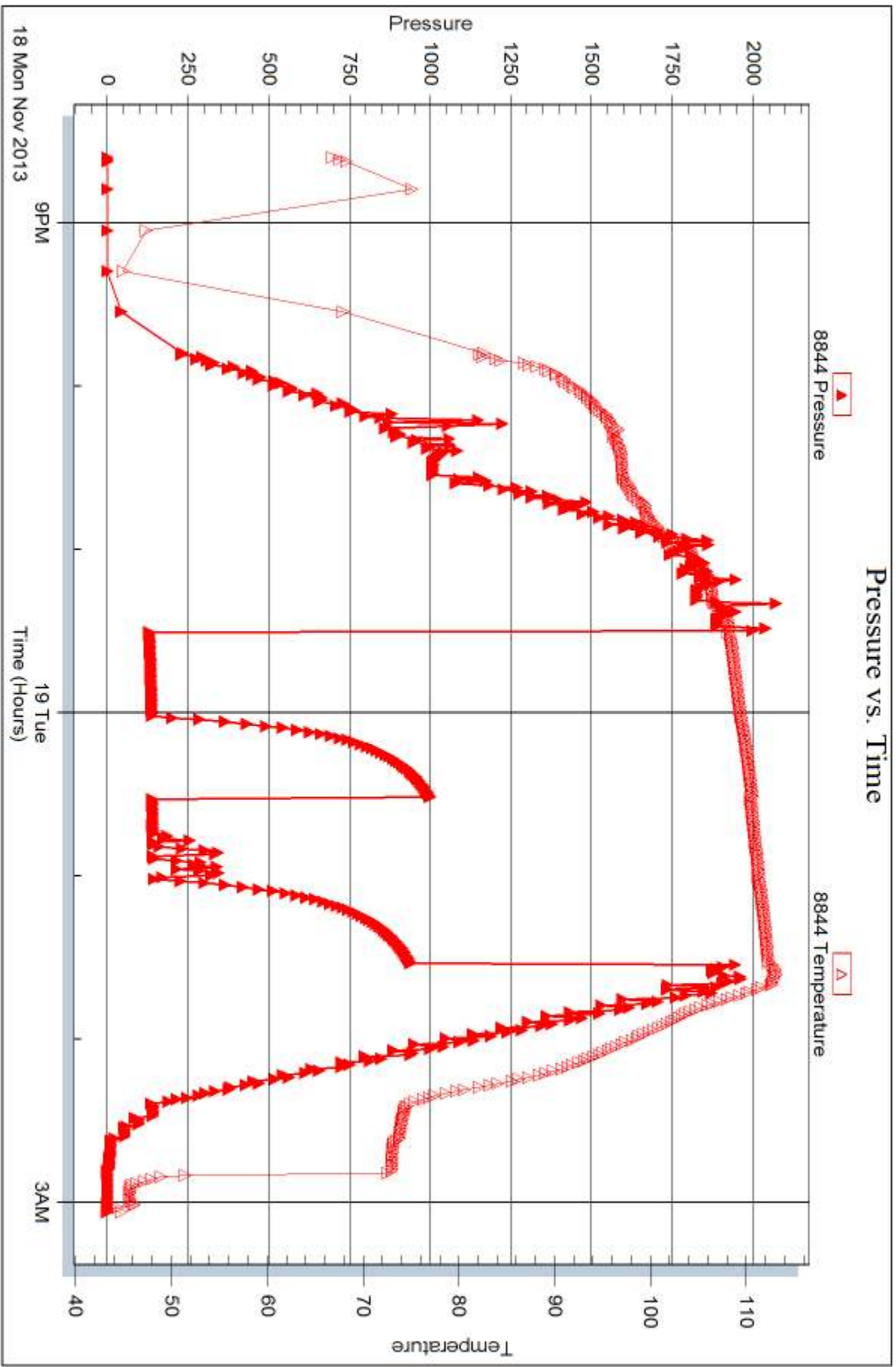


Serial #: 8844

Outside H&C Oil Operating, Inc

Bentley #36-3

DST Test Number: 1



Triobite Testing, Inc

Ref. No: 54664

Printed: 2013.11.22 @ 09:48:54



DRILL STEM TEST REPORT

Prepared For: **H&C Oil Operating ,Inc**

PO Box 86
Plainville ,KS 67663

ATTN: Marc Downing

Bentley #36-3

36-15s-28w Gove,KS

Start Date: 2013.11.19 @ 14:05:51

End Date: 2013.11.19 @ 21:40:21

Job Ticket #: 54665 DST #: 2

Trilobite Testing, Inc
PO Box 362 Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2013.11.22 @ 09:48:13



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

H&C Oil Operating ,Inc

36-15s-28w Gove,KS

PO Box 86
Plainville ,KS 67663

Bentley #36-3

Job Ticket: 54665

DST#: 2

ATTN: Marc Downing

Test Start: 2013.11.19 @ 14:05:51

GENERAL INFORMATION:

Formation: **K**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 16:21:36
 Time Test Ended: 21:40:21
 Interval: **4020.00 ft (KB) To 4054.00 ft (KB) (TVD)**
 Total Depth: 4054.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Shane McBride
 Unit No: 55
 Reference Elevations: 2552.00 ft (KB)
 2541.00 ft (CF)
 KB to GR/CF: 11.00 ft

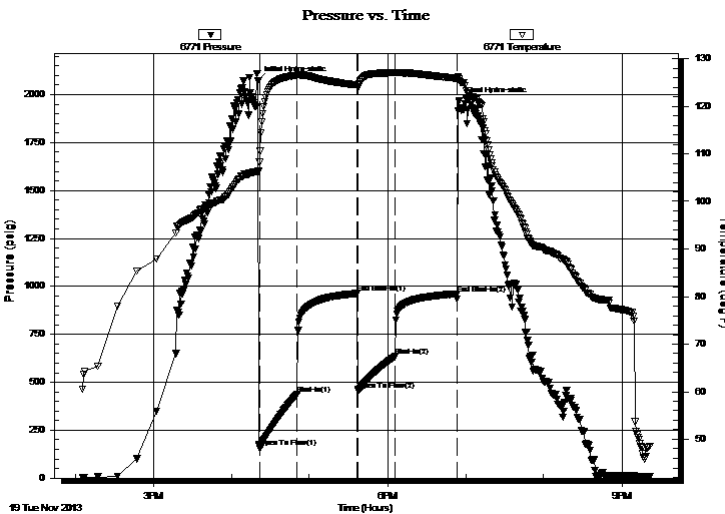
Serial #: 6771

Inside

Press@RunDepth: 636.07 psig @ 4021.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2013.11.19 End Date: 2013.11.19 Last Calib.: 2013.11.19
 Start Time: 14:05:51 End Time: 21:21:21 Time On Btm: 2013.11.19 @ 16:20:36
 Time Off Btm: 2013.11.19 @ 18:54:51

TEST COMMENT: B.O.B. in 3 min.
 No return
 B.O.B. in 5 1/2 min
 9" return blow

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2073.62	106.30	Initial Hydro-static
1	163.61	108.20	Open To Flow (1)
30	437.14	126.48	Shut-In(1)
76	963.39	124.44	End Shut-In(1)
77	457.39	124.06	Open To Flow (2)
106	636.07	127.02	Shut-In(2)
153	960.40	125.89	End Shut-In(2)
155	1963.62	125.70	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
837.00	s g w w/oil scum 5g 95w	9.24
186.00	g s o c m w 15g 5o 20m 60w	2.61
45.00	g m c o 10g 20m 70o	0.63
0.00	510' gas in pipe	0.00

* Recovery from multiple tests

Gas Rates

Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

H&C Oil Operating ,Inc

36-15s-28w Gove,KS

PO Box 86
Plainville ,KS 67663

Bentley #36-3

Job Ticket: 54665

DST#: 2

ATTN: Marc Downing

Test Start: 2013.11.19 @ 14:05:51

Tool Information

Drill Pipe:	Length: 3747.00 ft	Diameter: 3.80 inches	Volume: 52.56 bbl	Tool Weight: 1500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 275.00 ft	Diameter: 2.25 inches	Volume: 1.35 bbl	Weight to Pull Loose: 85000.00 lb
			<u>Total Volume: 53.91 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	22.00 ft			String Weight: Initial 63000.00 lb
Depth to Top Packer:	4020.00 ft			Final 69000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	34.00 ft			
Tool Length:	54.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Change Over Sub	1.00			4001.00	
Shut In Tool	5.00			4006.00	
Hydraulic tool	5.00			4011.00	
Packer	5.00			4016.00	20.00 Bottom Of Top Packer
Packer	4.00			4020.00	
Stubb	1.00			4021.00	
Recorder	0.00	6771	Inside	4021.00	
Recorder	0.00	8844	Outside	4021.00	
Perforations	28.00			4049.00	
Bullnose	5.00			4054.00	34.00 Bottom Packers & Anchor
Total Tool Length:	54.00				



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DRILL STEM TEST REPORT

FLUID SUMMARY

H&C Oil Operating ,Inc

36-15s-28w Gove,KS

PO Box 86
Plainville ,KS 67663

Bentley #36-3

Job Ticket: 54665

DST#: 2

ATTN: Marc Downing

Test Start: 2013.11.19 @ 14:05:51

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

78000 ppm

Viscosity: 60.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.98 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 3000.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
837.00	s g w w /oil scum 5g 95w	9.236
186.00	g s o c m w 15g 5o 20m 60w	2.609
45.00	g m c o 10g 20m 70o	0.631
0.00	510' gas in pipe	0.000

Total Length: 1068.00 ft Total Volume: 12.476 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

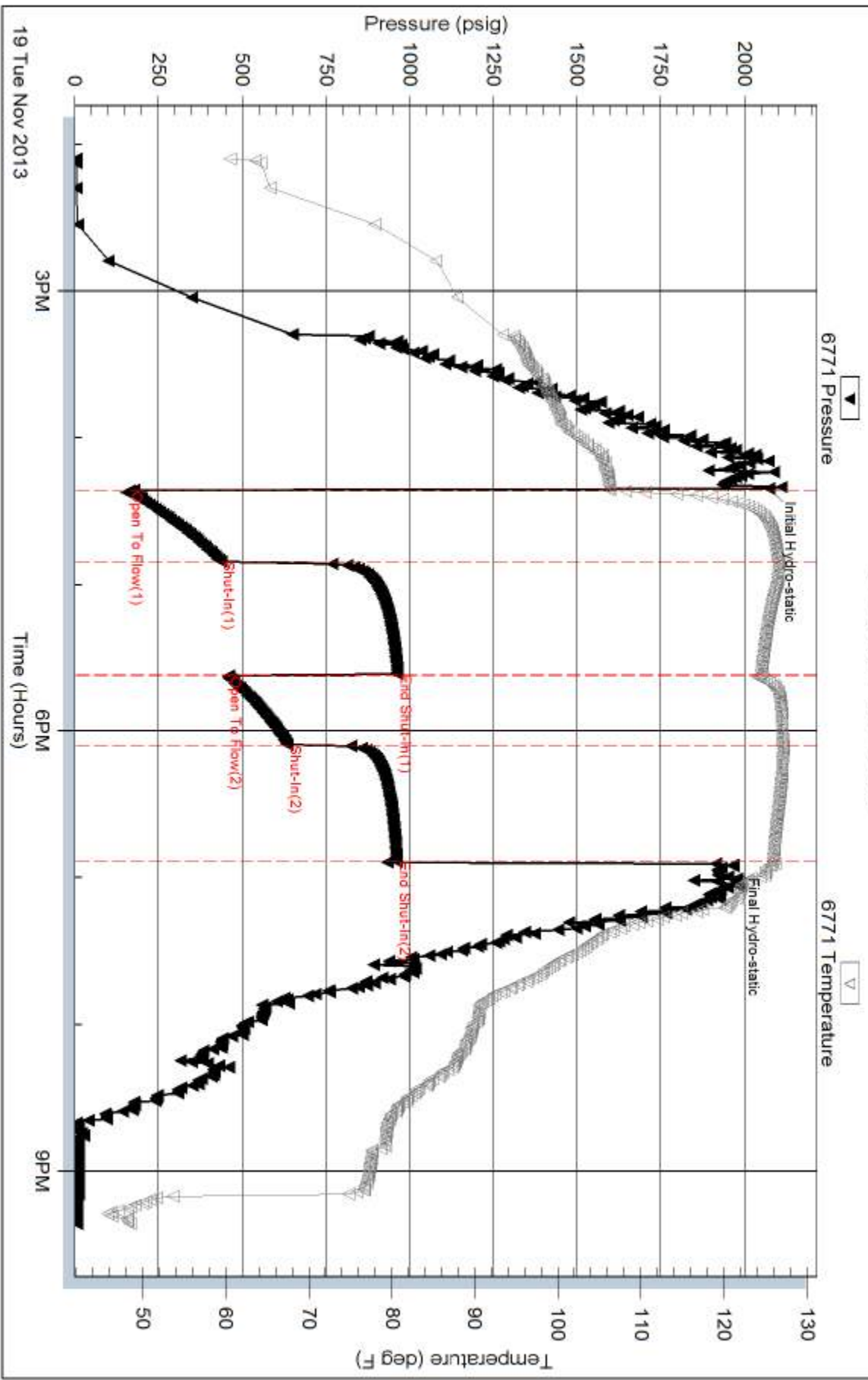
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: rw .120 @ 57*f = 78,000 chlor

Pressure vs. Time

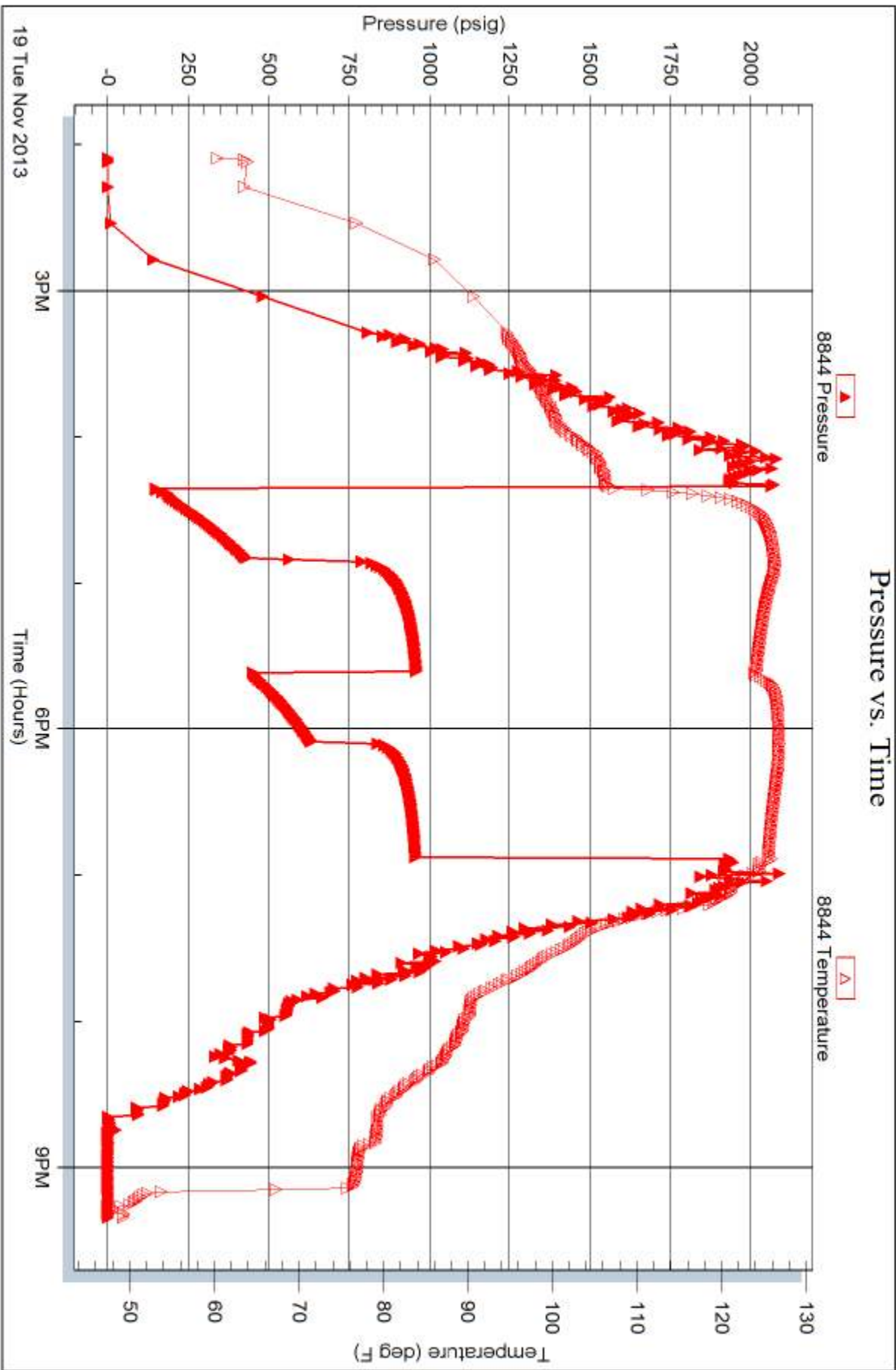


Serial #: 8844

Outside H&C Oil Operating, Inc

Bentley #36-3

DST Test Number: 2



Triobite Testing, Inc

Ref. No: 54665

Printed: 2013.11.22 @ 09:48:15



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 54664

Well Name & No. Bentley #36-3 Test No. #1 Date 11/19/13
 Company H3C Oil Operating Inc. Elevation 2552 KB 2541 GL
 Address P.O. Box 86 Plainsville, Ks 67663
 Co. Rep / Geo. Marc Downing Rig H2 #1
 Location: Sec. 36 Twp. 15S Rge. 28W Co. Gove State Ks

Interval Tested 3924 3994 Zone Tested H-I
 Anchor Length 70 Drill Pipe Run 3048' Mud Wt. 9.1
 Top Packer Depth 3919 Drill Collars Run 275' Vis 59
 Bottom Packer Depth 3924 Wt. Pipe Run --- WL 7.2
 Total Depth 3994 Chlorides 3000 ppm System LCM #2

Blow Description 1/4" blow died in 8 min
No return
No blow
No return
Hole Sticky Between 1345' - 1550'

Rec	Feet of	%gas	%oil	%water	%mud
<u>180'</u>	<u>Mud</u>			<u>100</u>	

Rec Total 180' BHT 113° Gravity --- API RW --- @ ---° F Chlorides --- ppm

(A) Initial Hydrostatic <u>2006</u>	<input checked="" type="checkbox"/> Test <u>1150</u>	T-On Location <u>19:45</u>
(B) First Initial Flow <u>139</u>	<input type="checkbox"/> Jars	T-Started <u>20:35</u>
(C) First Final Flow <u>141</u>	<input type="checkbox"/> Safety Joint	T-Open <u>23:30</u>
(D) Initial Shut-In <u>1001</u>	<input checked="" type="checkbox"/> Circ Sub <u>n/c</u>	T-Pulled <u>01:30</u>
(E) Second Initial Flow <u>148</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>03:15</u>
(F) Second Final Flow <u>148</u>	<input checked="" type="checkbox"/> Mileage <u>92RT</u> 142.60	Comments
(G) Final Shut-In <u>940</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>1929</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer
	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Ruined Packer
Initial Open <u>30</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Extra Copies
Initial Shut-In <u>30</u>	<input type="checkbox"/> Extra Recorder	Sub Total <u>0</u>
Final Flow <u>30</u>	<input type="checkbox"/> Day Standby	Total <u>1442.60</u>
Final Shut-In <u>30</u>	<input checked="" type="checkbox"/> Accessibility <u>150.00</u>	MP/DST Disc't
	Sub Total <u>1442.60</u>	

Approved By _____ Our Representative [Signature]
 TriLOBite Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. **54665**

Well Name & No. Bentley #36-3 Test No. #2 Date 11/19/13
 Company H3C Oil Operating Inc Elevation 2552 KB 2541 GL
 Address P.O. Box 86 Plainsville, Ks 67663
 Co. Rep / Geol Mark Downing Rig H2 #1
 Location: Sec. 36 Twp. 13S Rge. 28W Co. Gove State Ks

Interval Tested 4020 4054 Zone Tested K
 Anchor Length 34 Drill Pipe Run 3747' Mud Wt. 9.2
 Top Packer Depth 4015 Drill Collars Run 275' Vis 60
 Bottom Packer Depth 4020 Wt. Pipe Run — WL 8.0
 Total Depth 4054 Chlorides 3000 ppm System #1 1/2

Blow Description B.O.B. in 3min
No return
B.O.B. in 5 1/2 min.
9" in Return blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>45</u>	<u>gmco</u>	<u>10</u>	<u>70</u>	<u>20</u>	<u>—</u>
<u>186</u>	<u>gsocmw</u>	<u>15</u>	<u>5</u>	<u>60</u>	<u>20</u>
<u>837</u>	<u>sgw w/oilscum</u>	<u>5</u>	<u>scum</u>	<u>9.5</u>	<u>—</u>
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of <u>510' gas in pipe</u>	%gas	%oil	%water	%mud

Rec Total 1068' BHT 127° Gravity — API RW .120 @ 57° F Chlorides 78,000 ppm

(A) Initial Hydrostatic	<u>2073</u>	<input checked="" type="checkbox"/> Test	<u>1250</u>	T-On Location	<u>13:45</u>
(B) First Initial Flow	<u>1163</u>	<input type="checkbox"/> Jars		T-Started	<u>14:05</u>
(C) First Final Flow	<u>437</u>	<input type="checkbox"/> Safety Joint		T-Open	<u>14:20</u>
(D) Initial Shut-In	<u>963</u>	<input checked="" type="checkbox"/> Circ Sub	<u>n/c</u>	T-Pulled	<u>18:50</u>
(E) Second Initial Flow	<u>457</u>	<input type="checkbox"/> Hourly Standby		T-Out	<u>21:40</u>
(F) Second Final Flow	<u>636</u>	<input checked="" type="checkbox"/> Mileage	<u>92RT</u> 142.60	Comments	
(G) Final Shut-In	<u>960</u>	<input type="checkbox"/> Sampler		<input type="checkbox"/> Ruined Shale Packer	
(H) Final Hydrostatic	<u>1963</u>	<input type="checkbox"/> Straddle		<input type="checkbox"/> Ruined Packer	
		<input type="checkbox"/> Shale Packer		<input type="checkbox"/> Extra Copies	
		<input type="checkbox"/> Extra Packer		Sub Total	<u>1600</u>
		<input type="checkbox"/> Extra Recorder		Total	<u>3142.60</u>
		<input type="checkbox"/> Day Standby	<u>1d 37.75h</u>	MP/DST Disc't	
		<input checked="" type="checkbox"/> Accessibility	<u>\$150.00</u>		
		Sub Total	<u>1542.60</u>		

Initial Open 30
 Initial Shut-In 45
 Final Flow 20
 Final Shut-In 45

Our Representative [Signature]

Approved By _____
 Trilobite Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.